

UNITED STATES SIGNAL SERVICE

MONTHLY WEATHER REVIEW.

VOL. XIX.

WASHINGTON CITY, JUNE, 1891.

No. 6.

INTRODUCTION.

This REVIEW is based on reports for June, 1891, from 2,296 regular and voluntary observers. These reports are classified as follows: 169 reports from Signal Service stations; 118 reports from United States Army post surgeons; 1,648 monthly reports from state weather service and voluntary observers; 33 reports from Canadian stations; 328 marine reports through the co-operation of the Hydrographic Office, Navy Department; marine reports through the "New York Herald Weather Service;" monthly reports from the local weather services of Ala-

bama, Arkansas, Colorado, Illinois, Indiana, Iowa Weather and Crop Service, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New England, New Jersey, New York, North Carolina, North and South Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, and Wisconsin, and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used. The reports of the Central Pacific Railway Company were not received in time to be used in the preparation of this REVIEW.

CHARACTERISTICS OF THE WEATHER FOR JUNE, 1891.

In districts lying east of the Mississippi River the month was warmer than the average June, the greatest excess in mean temperature occurring in northeast Ontario, where it was more than 4°. In the Missouri Valley, over the Rocky Mountain and plateau regions, along the Pacific coast, and in east New England and the Canadian Maritime Provinces the month was cooler than usual, the most marked deficiency in mean temperature being noted from the northeast slope of the Rocky Mountains over the middle plateau region, where it was more than 4°. At a number of stations in the middle Missouri valley, on the middle and northeast slopes of the Rocky Mountains, and in the middle and southern plateau regions the month was the coolest June on record. The highest maximum temperature reported by a regular station of the Signal Service was 116°, at Yuma, Ariz., and by a voluntary observer, 121°, at Fort Mohave, Ariz. At Yuma, Ariz., and Jacksonville, Fla., the maximum temperature was as high, and at stations on the middle Pacific coast it was higher than previously reported for June. The lowest minimum temperature reported by a regular station of the Signal Service was 30°, at Winnemucca, Nev., and by a voluntary observer, 3°, at Breckenridge, Colo. At stations on the middle Atlantic and New England coasts, in the east and north parts of the Lake region, in Arizona, and along the middle and north Pacific coasts the minimum temperature was as low or lower than previously reported for June. Frost injured tender vegetation from Maine to Wisconsin on the 5th; in Wayne Co., Pa., on the 6th; in Florence Co., Wis., and at Spokane Falls, Wash., on the 8th; at Winnemucca, Nev., on the 9th; at American Falls, Idaho, on the 23d; and at Corry, Pa., on the 28th.

Among the more notable features of the month were the exceptionally heavy and destructive rain storms in the states of the lower Missouri valley during the second and third de-

caes. At points in northwest Iowa, southeast Kansas, east-central Nebraska, and central and east-central Montana the rainfall was exceptionally heavy, and in some of the sections named serious damage was caused to crops.

The monthly precipitation was in excess of the June average, except over the southern part of the country west of the Mississippi River, along the immediate east Gulf and Atlantic coasts, in the Saint Lawrence Valley, and from the Lake region over the lower Ohio and lower Mississippi valleys. The greatest excess in precipitation occurred in areas in the middle and upper Missouri valleys, middle Tennessee, and on the north Pacific coast, where it exceeded 2.00 inches, and the most marked deficiency was noted on the south Atlantic coast, where it was more than 4.00 inches. At stations in the north-central and northwest parts of the country the monthly precipitation was the greatest, and at stations on the middle and south Atlantic coasts, at Erie, Pa., and Springfield, Ill., it was the least ever reported for June.

Numerous destructive storms occurred east of the Rocky Mountains, their occurrence being most frequent in the states of the lower Missouri, middle Mississippi, and Ohio valleys, and in Pennsylvania, New York, and Texas. The more important local storms of the month are reported as follows: On the 14th a well-defined tornado visited the suburbs of Milwaukee, Wis.; on the 16th a storm with some of the characteristics of a tornado occurred at Bayonne, N. J.; on the 17th heavy rain fell in Iowa and Nebraska; on the 19th very heavy rain storms occurred in east Kansas and Nebraska; on the 21st an exceptionally severe thunder-storm swept over Cairo, Ill.; on the 23d-24th unprecedentedly heavy rain fell in northwest Iowa; on the 25th a destructive hail storm passed through eastern Colorado; and on the 26th a heavy rain storm prevailed in east Nebraska.

Destructive floods, resulting from heavy rainfall, occurred in the states of the central valleys lying west of the Mississippi River. Drouth injured or retarded crops in parts of Louisiana, Mississippi, Alabama, northeast Pennsylvania, New York, Connecticut, New Jersey, central Kentucky, and central and north Michigan.